

Specialty Glass Products Technical Reference Document

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Soda-Lime - Low Iron

Description

Low iron soda lime is created by using high quality grades of silica sand that are virtually free of iron oxides. This results in a transparent, “water white” glass that has higher transmission characteristics compared to normal soda lime. The difference is usually 2-3% at smaller thicknesses (3-9mm), and up to 8% greater transmission with 1/2” thick low iron glass. Low iron glass can be AR coated to achieve even higher transmission (up to 98-99% total transmission).

Features

- Higher light transmission
- Can be AR coated for super high transmission
- Can be chemically strengthened
- Good flatness
- No green tint

Applications

- Port projection
- Display
- Lighting
- Optical
- Architectural

Physical Properties

• Density	2530 kg/m ³	(158 lb/ft ³)
• Modulus of Elasticity (Young's)	7.2 x 10 ¹⁰ Pa	(10.4 x 10 ⁶ psi)
• Modulus of Rigidity (Shear)	3.0 x 10 ¹⁰ Pa	(4.3 x 10 ⁶ psi)
• Bulk Modulus	4.3 x 10 ¹⁰ Pa	(6.18 x 10 ⁶ psi)
• Poisson's Ration	0.23	
• Specific Gravity	2.53	
• Coefficient of Thermal Stress	0.62 mPa/°C	(50 psi/°F)
• Thermal Conductivity	0.937 W.m/m ² °C	(6.5 btu.in/hr. °F.ft ²)
• Specific Heat	0.21	
• Coefficient of Linear Expansion	8.9 x 10 ⁻⁶ strain/°C	(4.9 x 10 ⁻⁶ strain/°F)
• Hardness (Moh's Scale)	5 to 6	
• Refractive Index (Sodium D line)	1.523	
• (1 μm)	1.511	
• (2 μm)	1.499	
• Softening Point	726°C	1340°F
• Annealing Point	546°C	1015°F
• Strain Point	514°C	957°F
• Emissivity (Hemispherical) at 75°F	0.84	

Dimensions

- Thicknesses: 1mm-12mm thick
- Sizes: Up to 130” x 96”

